

Remarks

The present amendment is being filed in response to the Official Action mailed on August 22, 2005. That Official Action objected to claims 5-7 due to informalities. Claims 1-3, 8-11 and 13-16 were rejected under 35 U.S.C. 102(b) as being anticipated by Sakai et al. US PUB 2002/0122673 ("Sakai"). Claims 4-7, 12 and 17-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai in view of Isobe et al. US PUB 2003/0123889 ("Sakai").

Claims 1, 5, 8, 7, 13 and 17 have been amended to be more clear and distinct.

The Informality Objections

Claims 5 and 7 have been amended to address the informality objections. The Examiner is thanked for his careful reading of the claims.

The Art Rejections

All of the art rejections rely upon Sakai, which does not anticipate or render obvious the present claims, as discussed in greater detail below.

Sakai describes an image forming apparatus which ensures that fresh toner added to the image forming apparatus is sufficiently triboelectrically pre-charged prior to printing. Paragraphs [0002] and [0003]. An electrophographic recording apparatus 1 of Sakai includes a developing unit 8 having a toner tank 8d and a toner sensor 8e that detects an amount of toner remaining and generates an output signal. Paragraph [0031]. The apparatus 1 also includes a controller 41 that receives the output signal and controls the voltages generated by multiple power supplies. Paragraph [0047]. When fresh toner is added to the toner tank 8d, the controller 41 adjusts the voltages supplied to printing mechanisms to a value V1 *when the printing mechanisms are rotating in an idling manner*. Paragraphs [0048] and [0049]. When the toner tank 8d is nearly empty of toner, the controller adjust the voltages supplied to the printing mechanisms to a value V3 *when the printing mechanisms are rotating in an idling manner*. When the recording apparatus 1 is *printing*, the voltages remain at value V2. See Paragraph [0048] where Sakai states that "voltages V2(42Y), V2(42M), V2(42C) and V2(42B) [are supplied] to the toner-supplying rollers 8c of the corresponding developing units 8 when the printing mechanisms are actually performing printing." In other words, Sakai only varies the voltage supplied during idling rotation, not during printing. See also Paragraphs [0052],

[0056] and [0086]-[0093] where Sakai clearly indicates that the voltages are only changed during idling mode to adjust the pre-charging.

In contrast to Sakai, in one aspect of the present invention, the voltages applied to electrical development components are advantageously altered during the printing process to alter the amount of toner consumed to form images. See amended claim 1, for example, which recites the steps of “printing a plurality of images while a voltage is applied to at least one of said electrical development components” and then when a predetermined amount of toner remains “altering the amount of toner consumed to form images by changing the voltage level applied to the at least one of the electrical development components during image formation.” In other words, a first voltage level is used for printing when a certain amount of toner remains and a second voltage level, different from the first voltage level, is used for printing when the amount of toner remaining drops below a predetermined amount. Sakai clearly does not anticipate or render obvious such an approach as Sakai teaches that a consistent voltage level should be applied during each printing operation, irrespective of the amount of toner remaining.

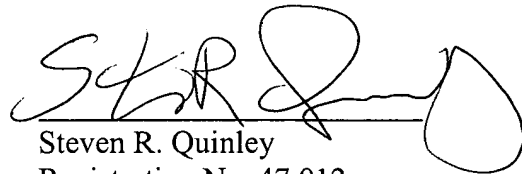
See also amended claim 8, for example, which recites “electrical development components consuming a portion of said toner by printing a plurality of images while a first voltage is applied to at least one of the electrical development components” with “said electronic circuit altering the amount of toner consumed to form images by applying a second voltage, different from the first voltage, to the at least one of the electrical development components when printing additional images, when the predetermined amount of toner remains in the toner cartridge.” See also amended claims 13 and 17. Sakai does not teach or render obvious the presently claimed technique.

Thus, applicants believe that independent claims 1, 8, 13 and 17, and the associated dependent claims, define over the relied upon art and are in order for allowance. If, after considering the present arguments, the Examiner believes that any issues remain, he is respectfully requested to telephone the undersigned to discuss these issues.

Conclusion

All of the pending claims appearing to be in order for allowance, prompt allowance of the present application is requested. Any questions regarding this application may be raised by telephone with the undersigned if it is considered that processing of this application will be expedited thereby.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'S. R. Quinley', written over a horizontal line.

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